



DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2021-0348; Project Identifier 2018-SW-076-AD; Amendment 39-21645; AD 2021-14-18]

RIN 2120-AA64

Airworthiness Directives; Leonardo S.p.a. (Type Certificate Previously Held by Agusta S.p.A.) Helicopters

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: The FAA is superseding Airworthiness Directive (AD) 2011-18-52 for certain Agusta S.p.A. (now Leonardo S.p.a.) Model AB139 and AW139 helicopters. AD 2011-18-52 required revising the life limit for certain part-numbered tail rotor (T/R) blades, updating the helicopter's historical records, repetitively inspecting each T/R blade for a crack or damage, and depending on the results, replacing the T/R blade. This AD was prompted by the manufacturer developing improved T/R blades using different materials and establishing life limits for each improved blade. This AD retains certain requirements from AD 2011-18-52, revises certain requirements from AD 2011-18-52, and expands the applicability to include the newly-designed T/R blades. The FAA is issuing this AD to address the unsafe condition on these products.

DATES: This AD is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in this AD as of [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES: For service information identified in this final rule, contact Leonardo S.p.A. Helicopters, Emanuele Bufano, Head of Airworthiness, Viale G.Agusta 520, 21017 C. Costa di Samarate (Va) Italy; telephone +39-0331-225074; fax +39-0331-229046; or at <https://www.leonardocompany.com/en/home>. You may view this service

information at the FAA, Office of the Regional Counsel, Southwest Region, 10101 Hillwood Pkwy., Room 6N-321, Fort Worth, TX 76177. For information on the availability of this material at the FAA, call (817) 222-5110. It is also available at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2021-0348.

Examining the AD Docket

You may examine the AD docket at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2021-0348; or in person at Docket Operations between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this final rule, the European Aviation Safety Agency (now European Union Aviation Safety Agency) (EASA) AD, any comments received, and other information. The address for Docket Operations is U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE, Washington, DC 20590.

FOR FURTHER INFORMATION CONTACT: Matt Fuller, AD Program Manager, General Aviation & Rotorcraft Unit, Airworthiness Products Section, Operational Safety Branch, FAA, 10101 Hillwood Pkwy., Fort Worth, TX 76177; telephone (817) 222-5110; email matthew.fuller@faa.gov.

SUPPLEMENTARY INFORMATION:

Background

The FAA issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 to supersede AD 2011-18-52, Amendment 39-17020 (77 FR 23109, April 18, 2012) (AD 2011-18-52). AD 2011-18-52 applied to Agusta S.p.A. (now Leonardo S.p.a.) Model AB139 and AW139 helicopters with a T/R blade part number (P/N) 3G6410A00131 or P/N 4G6410A00131 installed. The NPRM published in the *Federal Register* on May 10, 2021 (86 FR 24780). AD 2011-18-52 required, within 5 hours time-in-service (TIS), establishing a life limit of 600 hours TIS or 1,500 takeoff and landing cycles (cycles), whichever occurs first, on the affected T/R blades and updating the helicopter's historical records. If a T/R blade's total number of cycles was unknown, determining the T/R blade cycles by multiplying the T/R blade's hours TIS by 4 was required. For a T/R blade that, on the effective date of AD 2011-18-52, had

already exceeded 600 hours TIS or 1,500 cycles, the AD required replacing the T/R blade with an airworthy T/R blade within 5 hours TIS.

AD 2011-18-52 also required, within 25 hours TIS, and thereafter at intervals not to exceed 25 hours TIS, inspecting the T/R blade for a crack or damage that exceeds the limits of the applicable maintenance manual. The inspection was required to be accomplished using a mirror, magnifying glass (5X or greater), and light source; or borescope. If there was a crack, or if there was damage that exceeded the limits of the applicable maintenance manual, AD 2011-18-52 required, before further flight, replacing the T/R blade with an airworthy T/R blade.

AD 2011-18-52 was prompted by a fatal accident involving an Agusta Model AW139 helicopter, which may have been caused by cracks in a T/R blade. EASA, which is the Technical Agent for the Member States of the European Union, issued EASA Emergency AD 2011-0156-E, dated August 25, 2011 (EASA AD 2011-0156-E) to require repetitive inspections and reducing the life limit of the T/R blades. According to EASA, this condition, if not detected and corrected, could result in failure of a T/R blade and subsequent loss of control of the helicopter.

After the FAA issued AD 2011-18-52, EASA issued a series of ADs as follows:

- EASA AD 2012-0030, dated February 17, 2012 (EASA AD 2012-0030), which superseded Emergency AD 2011-0156-E, advised that the manufacturer developed improved, newly-designed T/R blades P/N 3G6410A00132 and P/N 4G6410A00132, established life limits for each improved T/R blade, added repetitive inspections for the improved T/R blades, and advised that each T/R blade P/N had its own individual life limit.
- EASA AD 2012-0076, dated May 2, 2012 (EASA AD 2012-0076), which superseded EASA AD 2012-0030 and was issued after the manufacturer developed another version of improved T/R blades P/N 3G6410A00133 and P/N 4G6410A00133 with different materials. AD 2012-0076 required interim life limits for the new improved version of the T/R blades while also retaining the inspection requirements of EASA AD 2012-0030.

- EASA AD 2012-0076R1, dated July 13, 2012 (EASA AD 2012-0076R1), which revised EASA AD 2012-0076 after a modification was developed to allow installation of certain part-numbered T/R blades under certain conditions.

- EASA AD 2012-0076R2, dated February 20, 2014 (EASA AD 2012-0076R2), which revised EASA AD 2012-0076R1, was issued after another modification was developed. EASA AD 2012-0076R2 requires removing the 25 hours TIS inspection of certain part-numbered T/R blades, extending the life limit of certain part-numbered T/R blades, retaining the repetitive inspections of certain part-numbered T/R blades and depending on the inspection results, performing certain applicable corrections.

Also, after AD 2011-18-52 was issued, the FAA issued an NPRM (78 FR 54596), which published in the *Federal Register* on September 5, 2013. The NPRM proposed to require retaining the inspection requirements for certain part-numbered blades and expand the applicability to include the newly designed blades and establish life limits for those blades. The NPRM also proposed to require replacing any cracked blade or any blade that has reached its life limit. That NPRM was prompted by improved modifications of the T/R blades. However, because the FAA determined that the NPRM did not adequately address the identified unsafe condition, the NPRM was withdrawn on February 25, 2021 (86 FR 11477).

Additional review also revealed necessary changes to address the unsafe condition. Therefore, in the NPRM published in the *Federal Register* on May 10, 2021 (86 FR 24780), the FAA proposed to clarify the repetitive inspection for T/R blade P/Ns 3G6410A00131 and P/N 4G6410A00131 from, “visually inspect the T/R blade for a crack or damage” to “visually inspect the T/R blade for a crack and damage.” The NPRM further proposed to revise that repetitive inspection from “damage that exceeds the limits of the applicable maintenance manual” to “damage that exceeds allowable limits” to meet current publishing requirements. The NPRM also clarified the inspection area for that repetitive inspection by proposing to require using a figure in the related service information instead of using a figure in the body of the AD action. The NPRM also proposed to revise the requirements of AD 2011-18-52 by removing unnecessary information, including the special flight permits paragraph.

Discussion of Final Airworthiness Directive

Comments

The FAA received no comments on the NPRM or on the determination of the costs.

Conclusion

These helicopters have been approved by EASA and are approved for operation in the United States. Pursuant to the FAA's bilateral agreement with the European Union, EASA has notified the FAA about the unsafe condition described in its AD. The FAA reviewed the relevant data and determined that air safety requires adopting this AD as proposed. Accordingly, the FAA is issuing this AD to address the unsafe condition on these helicopters.

Related Service Information Under 1 CFR Part 51

The FAA reviewed AgustaWestland Mandatory Bollettino Tecnico No. 139-265, Revision B, dated February 18, 2014. This service information specifies a precautionary inspection for a crack, a life limit for the affected T/R blades, and a quarantine of T/R blades that have exceeded their life limit. This service information also provides instructions for mixed usage of the affected T/R blades and sending certain data to the manufacturer.

This service information is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in the ADDRESSES section.

Differences Between this AD and the EASA AD

The EASA AD does not list the T/R blade life limits and instead references the Airworthiness Limitations Section of AW139 AMPI Chapter 4, while this AD includes the life limits in the AD. The EASA AD requires reporting information to Product Support Engineering, whereas this AD does not. The EASA AD requires contacting AgustaWestland if a crack or damage is found during the inspection, whereas this AD requires removing the T/R blade from service.

Costs of Compliance

The FAA estimates that this AD affects 130 helicopters of U.S. Registry and that

operators may incur the following costs in order to comply with this AD. Labor costs are estimated at \$85 per work-hour.

Inspecting one T/R blade for a crack will take about 1 work-hour for an estimated cost of \$85 per T/R blade per inspection cycle and up to \$44,200 for the U.S. fleet per inspection cycle.

Replacing one T/R blade will take about 8 work-hours and parts will cost about \$40,560 for an estimated cost of \$41,240 per replacement.

Authority for this Rulemaking

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, Section 106, describes the authority of the FAA Administrator. Subtitle VII, Aviation Programs, describes in more detail the scope of the Agency's authority.

The FAA is issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701: General requirements. Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

Regulatory Findings

This AD will not have federalism implications under Executive Order 13132. This AD will not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify that this AD:

- (1) Is not a "significant regulatory action" under Executive Order 12866,
- (2) Will not affect intrastate aviation in Alaska, and
- (3) Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

The Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA amends 14 CFR part 39 as follows:

PART 39 - AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

2. The FAA amends § 39.13 by:

a. Removing Airworthiness Directive (AD) 2011-18-52, Amendment 39-17020 (77 FR 23109, April 18, 2012); and

b. Adding the following new AD:

2021-14-18 Leonardo S.p.a. (Type Certificate Previously Held by Agusta S.p.A.):

Amendment 39-21645; Docket No. FAA-2021-0348; Project Identifier 2018-SW-076-AD.

(a) Effective Date

This airworthiness directive (AD) is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

(b) Affected ADs

This AD replaces AD 2011-18-52, Amendment 39-17020 (77 FR 23109, April 18, 2012) (AD 2011-18-52).

(c) Applicability

This AD applies to Leonardo S.p.a. (type certificate previously held by Agusta S.p.A.) Model AB139 and AW139 helicopters, certificated in any category, with tail rotor (T/R) blade, part number (P/N) 3G6410A00131, 3G6410A00132, 3G6410A00133, 4G6410A00131, 4G6410A00132, or 4G6410A00133, installed.

(d) Subject

Joint Aircraft Service Component (JASC) Code: 6410, Tail Rotor Blades.

(e) Unsafe Condition

This AD defines the unsafe condition as a crack in a T/R blade. This condition could result in failure of a T/R blade and subsequent loss of control of the helicopter.

(f) Compliance

Comply with this AD within the compliance times specified, unless already done.

(g) Required Actions

(1) For T/R blade P/Ns 3G6410A00131 and 4G6410A00131, within 5 hours time-in-service (TIS) after May 3, 2012 (the effective date of AD 2011-18-52), establish a life limit of 600 hours TIS or 1,500 takeoff and landing cycles (cycles), whichever occurs first, on the affected T/R blades and update the helicopter's historical records. If a T/R blade's total number of cycles is unknown, determine the T/R blade cycles by multiplying the T/R blade's hours TIS by 4.

(2) For T/R blade P/Ns 3G6410A00131 and 4G6410A00131, thereafter following paragraph (g)(1) of this AD, remove any T/R blade from service before accumulating 600 total hours TIS or 1,500 total cycles, whichever occurs first.

(3) For T/R blade P/Ns 3G6410A00132, 3G6410A00133, 4G6410A00132, and 4G6410A00133, within 5 hours TIS after the effective date of this AD, determine the total number of cycles. If a T/R blade's total number of cycles is unknown, determine the T/R blade cycles by multiplying the blade's hours TIS by 4. Before further flight, remove any T/R blade from service that has accumulated or exceeded its life limit as follows. Thereafter, remove any T/R blade from service before accumulating its life limit as follows:

(i) T/R blade P/Ns 3G6410A00132 and 4G6410A00132: 1,200 total hours TIS or 3,200 total cycles, whichever occurs first.

(ii) T/R blade P/N 3G6410A00133: 40,000 total cycles.

(iii) T/R blade P/N 4G6410A00133: 4,033 total hours TIS or 40,000 cycles, whichever occurs first.

Note 1 to paragraph (g)(3): A combination of T/R blades having different P/Ns can be installed on the same helicopter. The eligible combinations of T/R blades P/N are listed in AgustaWestland Mandatory Bollettino Tecnico No. 139-265, Revision B, dated February 18, 2014 (BT No. 139-265).

(4) For T/R blade P/Ns 3G6410A00131 and P/N 4G6410A00131, within 25 hours TIS after the effective date of this AD, and thereafter at intervals not to exceed 25 hours TIS, visually inspect the T/R blade for a crack and damage that exceeds allowable limits. Inspect in the area depicted in Figure 1 of BT No. 139-265 using a mirror, a 5X or higher power magnifying glass, and a flashlight, or borescope. If there is a crack or damage that exceeds allowable limits, before further flight, remove the T/R blade from service.

(5) As of the effective date of this AD, do not install on any helicopter any T/R blade P/N 3G6410A00131 or P/N 4G6410A00131, unless the actions required by paragraphs (g)(1), (2), and (4) of this AD have been accomplished.

(h) Alternative Methods of Compliance (AMOCs)

(1) The Manager, International Validation Branch, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the manager of the International Validation Branch, send it to the attention of the person identified in paragraph (i)(1) of this AD. Information may be emailed to: 9-AVS-AIR-730-AMOC@faa.gov.

(2) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

(i) Related Information

(1) For more information about this AD, contact Matt Fuller, AD Program Manager, General Aviation & Rotorcraft Unit, Airworthiness Products Section, Operational Safety Branch, FAA, 10101 Hillwood Pkwy., Fort Worth, TX 76177; telephone (817) 222-5110; email matthew.fuller@faa.gov.

(2) The subject of this AD is addressed in European Aviation Safety Agency (now European Union Aviation Safety Agency) (EASA) AD 2012-0076R2, dated February 20, 2014. You may view the EASA AD at <https://www.regulations.gov> in Docket No. FAA-2021-0348.

(j) Material Incorporated by Reference

(1) The Director of the Federal Register approved the incorporation by reference of the service information listed in this paragraph under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) You must use this service information as applicable to do the actions required by this AD, unless the AD specifies otherwise.

(i) AgustaWestland Mandatory Bollettino Tecnico No. 139-265, Revision B, dated February 18, 2014.

(ii) [Reserved]

(3) For service information identified in this AD, contact Leonardo S.p.A. Helicopters, Emanuele Bufano, Head of Airworthiness, Viale G. Agusta 520, 21017 C. Costa di Samarate (Va) Italy; telephone +39-0331-225074; fax +39-0331-229046; or at <https://www.leonardocompany.com/en/home>.

(4) You may view this service information at the FAA, Office of the Regional Counsel, Southwest Region, 10101 Hillwood Pkwy., Room 6N-321, Fort Worth, TX 76177. For information on the availability of this material at the FAA, call (817) 222-5110.

(5) You may view this service information that is incorporated by reference at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, email: fedreg.legal@nara.gov, or go to: <https://www.archives.gov/federal-register/cfr/ibr-locations.html>.

Issued on July 2, 2021.

Gaetano A. Sciortino, Deputy Director for Strategic Initiatives,
Compliance & Airworthiness Division,
Aircraft Certification Service.

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